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TECH CENTER 1600/2900

1

SEQUENCE LISTING

<110> White, David
Zhou, Jianghong
Tartaglia, Louis A.

<120> LEPTIN INDUCED GENES

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<140> US 09/804,357

<141> 2001-03-12

<150> US 09/195,896

<151> 1998-11-19

<150> US 09/150,857

<151> 1998-09-10

<140> US 60/106,379

<141> 1998-10-29

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Trp Lys Pro Pro Ser Thr Pro Arg Ala Tyr Trp Asn Arg Glu Gln Glu
      50           55           60
Lys Leu Asn Arg Trp Tyr Asn Pro Ile Leu Asn Arg Val Ala Asn Gln
      65           70           75           80
Thr Gly Glu Leu Ala Thr Ser Pro Asn Thr Ser His Leu Ser Tyr Cys
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Glu Pro Asp Ser Thr Val Met Thr Ala Val Thr Asp Phe Asn Asn Leu
      100           105           110
Pro Asp Arg Phe Lys Asp Phe Leu Leu Tyr Leu Arg Cys Arg Asn Tyr
      115           120           125
Ser Leu Leu Ile Asp Gln Pro Lys Lys Cys Ala Lys Lys Pro Phe Leu
      130           135           140
Leu Leu Ala Ile Lys Ser Leu Ile Pro His Phe Ala Arg Arg Gln Ala
      145           150           155           160
Ile Arg Glu Ser Trp Gly Arg Glu Thr Asn Val Gly Asn Gln Thr Val
      165           170           175
Val Arg Val Phe Leu Leu Gly Lys Thr Pro Pro Glu Asp Asn His Pro
      180           185           190
Asp Leu Ser Asp Met Leu Lys Phe Glu Ser Asp Lys His Gln Asp Ile
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Leu Met Trp Asn Tyr Arg Asp Thr Phe Phe Asn Leu Ser Leu Lys Glu
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Val Leu Phe Leu Arg Trp Val Ser Thr Ser Cys Pro Asp Ala Glu Phe
      225           230           235           240
Val Phe Lys Gly Asp Asp Val Phe Val Asn Thr His His Ile Leu
      245           250           255
Asn Tyr Leu Asn Ser Leu Ser Lys Ser Lys Ala Lys Asp Leu Phe Ile
      260           265           270
Gly Asp Val Ile His Asn Ala Gly Pro His Arg Asp Lys Lys Leu Lys
      275           280           285
Tyr Tyr Ile Pro Glu Val Phe Tyr Thr Gly Val Tyr Pro Pro Tyr Ala
      290           295           300
Gly Gly Gly Gly Phe Leu Tyr Ser Gly Pro Ala Leu Leu Arg Leu Tyr
      305           310           315           320
Ser Ala Thr Ser Arg Val His Leu Tyr Pro Ile Asp Asp Val Tyr Thr
      325           330           335
Gly Met Cys Leu Gln Lys Leu Gly Leu Val Pro Glu Lys His Lys Gly
      340           345           350
Phe Arg Thr Phe Asp Ile Glu Glu Lys Asn Lys Lys Asn Ile Cys Ser
      355           360           365
Tyr Ile Asp Leu Met Leu Val His Ser Arg Lys Pro Gln Glu Met Ile
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cagaaactgg gccttgttcc agagaagcac aaaggettca ggacatttga tattgaagag     1080
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Lys Leu Asn Arg Trp Tyr Asn Pro Ile Leu Asn Arg Val Ala Asn Gln
          35          40          45
Thr Gly Glu Leu Ala Thr Ser Pro Asn Thr Ser His Leu Ser Tyr Cys
          50          55          60
Glu Pro Asp Ser Thr Val Met Thr Ala Val Thr Asp Phe Asn Asn Leu
          65          70          75          80
Pro Asp Arg Phe Lys Asp Phe Leu Leu Tyr Leu Arg Cys Arg Asn Tyr
          85          90          95
Ser Leu Leu Ile Asp Gln Pro Lys Lys Cys Ala Lys Lys Pro Phe Leu
          100          105          110
Leu Leu Ala Ile Lys Ser Leu Ile Pro His Phe Ala Arg Arg Gln Ala
          115          120          125
Ile Arg Glu Ser Trp Gly Arg Glu Thr Asn Val Gly Asn Gln Thr Val
          130          135          140
Val Arg Val Phe Leu Leu Gly Lys Thr Pro Pro Glu Asp Asn His Pro
          145          150          155          160
Asp Leu Ser Asp Met Leu Lys Phe Glu Ser Asp Lys His Gln Asp Ile
          165          170          175
Leu Met Trp Asn Tyr Arg Asp Thr Phe Phe Asn Leu Ser Leu Lys Glu
          180          185          190
Val Leu Phe Leu Arg Trp Val Ser Thr Ser Cys Pro Asp Ala Glu Phe
          195          200          205

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Val Phe Lys Gly Asp Asp Asp Val Phe Val Asn Thr His His Ile Leu
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 225 230 235 240
 Gly Asp Val Ile His Asn Ala Gly Pro His Arg Asp Lys Lys Leu Lys
 245 250 255
 Tyr Tyr Ile Pro Glu Val Phe Tyr Thr Gly Val Tyr Pro Pro Tyr Ala
 260 265 270
 Gly Gly Gly Gly Phe Leu Tyr Ser Gly Pro Ala Leu Leu Arg Leu Tyr
 275 280 285
 Ser Ala Thr Ser Arg Val His Leu Tyr Pro Ile Asp Asp Val Tyr Thr
 290 295 300
 Gly Met Cys Leu Gln Lys Leu Gly Leu Val Pro Glu Lys His Lys Gly
 305 310 315 320
 Phe Arg Thr Phe Asp Ile Glu Glu Lys Asn Lys Lys Asn Ile Cys Ser
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 Leu Lys Glu Ile Asp Ser Ser Val Leu Asn Val Ala Val Thr Gly Glu
 50 55 60
 Thr Gly Ser Gly Lys Ser Ser Phe Ile Asn Thr Leu Arg Gly Ile Gly
 65 70 75 80
 Asn Glu Glu Glu Gly Ala Ala Lys Thr Gly Val Val Glu Val Thr Met
 85 90 95
 Glu Arg His Pro Tyr Lys His Pro Asn Ile Pro Asn Val Val Phe Trp
 100 105 110
 Asp Leu Pro Gly Ile Gly Ser Thr Asn Phe Pro Pro Asn Thr Tyr Leu
 115 120 125
 Glu Lys Met Lys Phe Tyr Glu Tyr Asp Phe Phe Ile Ile Ile Ser Ala
 130 135 140
 Thr Arg Phe Lys Lys Asn Asp Ile Asp Ile Ala Lys Ala Ile Ser Met
 145 150 155 160
 Met Lys Lys Glu Phe Tyr Phe Val Arg Thr Lys Val Asp Ser Asp Ile
 165 170 175
 Thr Asn Glu Ala Asp Gly Lys Pro Gln Thr Phe Asp Lys Glu Lys Val
 180 185 190
 Leu Gln Asp Ile Arg Leu Asn Cys Val Asn Thr Phe Arg Glu Asn Gly
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 Ile Ala Glu Pro Pro Ile Phe Leu Leu Ser Asn Lys Asn Val Cys His
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 Tyr Asp Phe Pro Val Leu Met Asp Lys Leu Ile Ser Asp Leu Pro Ile
 225 230 235 240
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 Val Ile Glu Lys Lys Arg Gln Phe Leu Lys Gln Arg Ile Trp Leu Glu
 260 265 270
 Gly Phe Ala Ala Asp Leu Val Asn Ile Ile Pro Ser Leu Thr Phe Leu
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 Leu Asp Ser Asp Leu Glu Thr Leu Lys Lys Ser Met Lys Phe Tyr Arg
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 340 345 350
 Tyr Ile Gln Glu Phe Cys Leu Ala Asn Gly Tyr Leu Leu Pro Lys Asn
 355 360 365
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Phe	Leu	Ile	Asn	Glu	Pro	Asn	Lys	Cys	Glu	Lys	Asn	Ile	Pro	Phe	Leu
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Val	Ile	Leu	Ile	Ser	Thr	Thr	His	Lys	Glu	Phe	Asp	Ala	Arg	Gln	Ala
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	35						40					45			
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Val	Ile	Leu	Val	Thr	Ser	Arg	Pro	Ser	Asp	Val	Lys	Ala	Arg	Gln	Ala
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Ile	Arg	Val	Thr	Trp	Gly	Glu	Lys	Lys	Ser	Trp	Trp	Gly	Tyr	Glu	Val
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Leu	Ile	Asp	Asn	Tyr	Ser	Tyr	Arg	Gly	Phe	Phe	His	Lys	Asn	His	Ile
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				245					250					255	
Met	Ser	His	Val	Lys	Pro	Ile	Lys	Phe	Glu	Asp	Val	Tyr	Val	Gly	Ile
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Cys	Leu	Asn	Leu	Leu	Lys	Val	Asp	Ile	His	Ile	Pro	Glu	Asp	Thr	Asn
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 35 40 45
 Gly Ser Gly Ser Ala Ser Ser Gly Leu Asp Lys Phe Ala Tyr Leu Arg
 50 55 60
 Val Pro Ser Phe Thr Ala Glu Val Pro Val Asp Gln Pro Ala Arg Leu
 65 70 75 80
 Thr Met Leu Ile Lys Ser Ala Val Gly Asn Ser Arg Arg Arg Glu Ala
 85 90 95
 Ile Arg Arg Thr Trp Gly Tyr Glu Gly Arg Phe Ser Asp Val His Leu
 100 105 110
 Arg Arg Val Phe Leu Leu Gly Thr Ala Glu Asp Ser Glu Lys Asp Val
 115 120 125
 Ala Trp Glu Ser Arg Glu His Gly Asp Ile Leu Gln Ala Asp Phe Thr
 130 135 140
 Asp Ala Tyr Phe Asn Asn Thr Leu Lys Thr Met Leu Gly Met Arg Trp
 145 150 155 160
 Ala Ser Glu Gln Phe Asn Arg Ser Glu Phe Tyr Leu Phe Val Asp Asp
 165 170 175
 Asp Tyr Tyr Val Ser Ala Lys Asn Val Leu Lys Phe Leu Gly Arg Gly
 180 185 190
 Arg Gln Ser His Gln Pro Glu Leu Leu Phe Ala Gly His Val Phe Gln
 195 200 205
 Thr Ser Pro Leu Arg His Lys Phe Ser Lys Trp Tyr Val Ser Leu Glu
 210 215 220
 Glu Tyr Pro Phe Asp Arg Trp Pro Pro Tyr Val Thr Ala Gly Ala Phe
 225 230 235 240
 Ile Leu Ser Gln Lys Ala Leu Arg Gln Leu Tyr Ala Ala Ser Val His
 245 250 255
 Leu Pro Leu Phe Arg Phe Asp Asp Val Tyr Leu Gly Ile Val Ala Leu
 260 265 270
 Lys Ala Gly Ile Ser Leu Gln His Cys Asp Asp Phe Arg Phe His Arg
 275 280 285
 Pro Ala Tyr Lys Gly Pro Asp Ser Tyr Ser Ser Val Ile Ala Ser His
 290 295 300
 Glu Phe Gly Asp Pro Glu Glu Met Thr Arg Val Trp Asn Glu Cys Arg
 305 310 315 320
 Ser Ala Asn Tyr Ala
 325

<210> 11
 <211> 422
 <212> PRT
 <213> *Homo sapien*

Met 1	Leu 11	Gln 12	Trp 13	Arg 5	Arg 6	Arg 7	His 8	Cys 9	Cys 10	Phe 11	Ala 12	Lys 13	Met 14	Thr 15	Trp 16
Asn 20	Ala 21	Lys 22	Arg 23	Ser 24	Leu 25	Phe 26	Arg 27	Thr 28	His 29	Leu 30	Ile 31	Gly 32	Val 33	Leu 34	Ser 35
Leu 35	Val 36	Phe 37	Leu 38	Phe 39	Ala 40	Met 41	Phe 42	Leu 43	Phe 44	Phe 45	Asn 46	His 47	His 48	Asp 49	Trp 50
Leu 50	Pro 51	Gly 52	Arg 53	Ala 54	Gly 55	Phe 56	Lys 57	Glu 58	Asn 59	Pro 60	Val 61	Thr 62	Tyr 63	Thr 64	Phe 65
Arg 65	Gly 66	Phe 67	Arg 68	Ser 69	Thr 70	Lys 71	Ser 72	Glu 73	Thr 74	Asn 75	His 76	Ser 77	Ser 78	Leu 79	Arg 80
Asn 85	Ile 86	Trp 87	Lys 88	Glu 89	Thr 90	Val 91	Pro 92	Gln 93	Thr 94	Leu 95	Arg 96	Pro 97	Gln 98	Thr 99	Ala 100
Thr 105	Asn 106	Ser 107	Asn 108	Thr 109	Asp 110	Leu 111	Ser 112	Pro 113	Gln 114	Gly 115	Val 116	Thr 117	Gly 118	Leu 119	
Glu 120	Asn 121	Thr 122	Leu 123	Ser 124	Ala 125	Asn 126	Gly 127	Ser 128	Ile 129	Tyr 130	Asn 131	Glu 132	Lys 133	Gly 134	Thr 135
Gly 135	His 136	Pro 137	Asn 138	Ser 139	Tyr 140	His 141	Phe 142	Lys 143	Tyr 144	Ile 145	Ile 146	Asn 147	Glu 148	Pro 149	Glu 150
Lys 155	Cys 156	Gln 157	Glu 158	Lys 159	Ser 160	Pro 161	Phe 162	Leu 163	Ile 164	Leu 165	Leu 166	Ile 167	Ala 168	Ala 169	Glu 170
Pro 175	Gly 176	Gln 177	Ile 178	Glu 179	Ala 180	Arg 181	Arg 182	Ala 183	Ile 184	Arg 185	Gln 186	Thr 187	Trp 188	Gly 189	Asn 190
Glu 195	Ser 196	Leu 197	Ala 198	Pro 199	Gly 200	Ile 201	Gln 202	Ile 203	Thr 204	Arg 205	Ile 206	Phe 207	Leu 208	Leu 209	Gly 210
Leu 215	Ser 216	Ile 217	Lys 218	Leu 219	Asn 220	Gly 221	Tyr 222	Leu 223	Gln 224	Arg 225	Ala 226	Ile 227	Leu 228	Glu 229	Glu 230
Ser 235	Arg 236	Gln 237	Tyr 238	His 239	Asp 240	Ile 241	Ile 242	Gln 243	Gln 244	Glu 245	Tyr 246	Leu 247	Asp 248	Thr 249	Tyr 250
Tyr 255	Asn 256	Leu 257	Thr 258	Ile 259	Lys 260	Thr 261	Leu 262	Met 263	Gly 264	Met 265	Asn 266	Trp 267	Val 268	Ala 269	Thr 270
Tyr 275	Cys 276	Pro 277	His 278	Ile 279	Pro 280	Tyr 281	Val 282	Met 283	Lys 284	Thr 285	Asp 286	Ser 287	Asp 288	Met 289	Phe 290
Val 295	Asn 296	Thr 297	Glu 298	Tyr 299	Leu 300	Ile 301	Asn 302	Lys 303	Leu 304	Leu 305	Lys 306	Pro 307	Asp 308	Leu 309	Pro 310
Pro 315	Arg 316	His 317	Asn 318	Tyr 319	Phe 320	Thr 321	Gly 322	Tyr 323	Leu 324	Met 325	Arg 326	Gly 327	Tyr 328	Ala 329	Pro 330
Asn 335	Arg 336	Asn 337	Lys 338	Asp 339	Ser 340	Lys 341	Trp 342	Tyr 343	Met 344	Pro 345	Pro 346	Asp 347	Leu 348	Tyr 349	Pro 350
Ser 355	Glu 356	Arg 357	Tyr 358	Pro 359	Val 360	Phe 361	Cys 362	Ser 363	Gly 364	Thr 365	Gly 366	Tyr 367	Val 368	Phe 369	Ser 370
Gly 375	Asp 376	Leu 377	Ala 378	Glu 379	Lys 380	Ile 381	Phe 382	Lys 383	Val 384	Ser 385	Leu 386	Gly 387	Ile 388	Arg 389	Arg 390
Leu 395	His 396	Leu 397	Glu 398	Asp 399	Val 400	Tyr 401	Val 402	Gly 403	Ile 404	Cys 405	Leu 406	Ala 407	Lys 408	Leu 409	Arg 410
Ile 415	Asp 416	Pro 417	Val 418	Pro 419	Pro 420	Pro 421	Asn 422	Glu 423	Phe 424	Val 425	Phe 426	Asn 427	His 428	Trp 429	Arg 430
Val 435	Ser 436	Tyr 437	Ser 438	Ser 439	Cys 440	Lys 441	Tyr 442	Ser 443	His 444	Leu 445	Ile 446	Thr 447	Ser 448	His 449	Gln 450
Phe 455	Gln 456	Pro 457	Ser 458	Glu 459	Leu 460	Ile 461	Lys 462	Tyr 463	Trp 464	Asn 465	His 466	Leu 467	Gln 468	Gln 469	Asn 470

<210> 12
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 <212> PRT
 <213> Artificial sequence

<220>
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 Val Xaa Leu Xaa Xaa Xaa Phe Xaa Phe Leu Xaa His Trp Phe Phe Pro
 20 25 30
 Ile Trp Tyr Leu Ser Ile Pro Leu Arg Pro Gln Thr Gly Ser Xaa Ser
 35 40 45
 Xaa Ser Xaa Xaa Leu Ser His Leu Tyr Asn Thr Val Xaa Arg Xaa Asn
 50 55 60
 Xaa Xaa Phe Asn Asn Xaa Xaa Thr Arg Pro Ile Asn Ser Xaa Xaa Phe
 65 70 75 80
 Glu Phe Leu Ile Asp Glu Pro Xaa Lys Cys Xaa Lys Lys Pro Phe Leu
 85 90 95
 Val Leu Leu Ile Lys Ser Xaa Pro Gly Xaa Phe Xaa Ala Arg Gln Ala
 100 105 110
 Ile Arg Glu Thr Trp Gly Xaa Glu Xaa Asn Phe Xaa Gly Ile Xaa Val
 115 120 125
 Xaa Arg Val Phe Leu Leu Gly Lys Xaa Ala Glu Xaa Xaa Asp Pro Xaa
 130 135 140
 Leu Xaa Xaa Met Val Glu Xaa Glu Ser Arg Xaa His Gly Asp Ile Ile
 145 150 155 160
 Gln Gln Asp Phe Leu Asp Thr Tyr Phe Asn Leu Thr Leu Lys Thr Leu
 165 170 175
 Met Gly Met Arg Trp Val Ala Thr Phe Cys Pro Xaa Ala Glu Tyr Val
 180 185 190
 Met Lys Thr Asp Ser Asp Val Phe Val Asn Thr Xaa Asn Leu Leu Asn
 195 200 205
 Lys Leu Leu Lys Pro Ser Leu Ser His Arg Xaa Xaa Leu Phe Thr Gly
 210 215 220
 Tyr Val Ile Xaa Gly
 225

<210> 13
 <211> 1707
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
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<221> misc_feature
 <222> (1)...(1707)
 <223> n = A,T,C or G

<400> 13

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 agccggagca gtccctgccg ccgacaccgc cgggccgccc gtccggggcg ccgcgcattg 120
 agcgtgagct gcggcggtcg ccgggctgag ccgcgcggag cggccgggac gtggatgtgg 180
 ccgcgatctc ccgcccttgc ccccgccccg ccgagctgga gctgctcccg gacaagatat 240
 gagaa atg agt gtt gga cgt cga aga ata aag ttg ttg ggt atc ctg atg 290

Met Ser Val Gly Arg Arg Arg Ile Lys Leu Leu Gly Ile Leu Met
 1 5 10 15

atg gca aat gtc ttc att tat ttt att atg gaa gtc tcc aaa agc agt 338
 Met Ala Asn Val Phe Ile Tyr Phe Ile Met Glu Val Ser Lys Ser Ser
 20 25 30

agc caa gaa aaa aat gga aaa ggg gaa gta ata ata ccc aaa gag aag 386
 Ser Gln Glu Lys Asn Gly Lys Gly Glu Val Ile Ile Pro Lys Glu Lys
 35 40 45

ttc tgg aag ata tct acc cct ccc gag gca tac tgg aac cga gag caa 434
 Phe Trp Lys Ile Ser Thr Pro Pro Glu Ala Tyr Trp Asn Arg Glu Gln
 50 55 60

gag aag ctg aac cgg cag tac aac ccc atc ctg agc atg ctg acc aac 482
 Glu Lys Leu Asn Arg Gln Tyr Asn Pro Ile Leu Ser Met Leu Thr Asn
 65 70 75

cag acg ggg gag gcg ggc agg ctc tcc aat ata agc cat ctg aac tac 530
 Gln Thr Gly Glu Ala Gly Arg Leu Ser Asn Ile Ser His Leu Asn Tyr
 80 85 90 95

tgc gaa cct gac ctg agg gtc acg tcg gtg gtt acg ggt ttt aac aac 578
 Cys Glu Pro Asp Leu Arg Val Thr Ser Val Val Thr Gly Phe Asn Asn
 100 105 110

ttg ccg gac aga ttt aaa gac ttt ctg ctg tat ttg aga tgc cgc aat 626
 Leu Pro Asp Arg Phe Lys Asp Phe Leu Leu Tyr Leu Arg Cys Arg Asn
 115 120 125

tat tca ctg ctt ata gat cag ccg gat aag tgt gca aag aaa cct ttc 674
 Tyr Ser Leu Leu Ile Asp Gln Pro Asp Lys Cys Ala Lys Lys Pro Phe
 130 135 140

ttg ttg ctg gcg att aag tcc ctc act cca cat ttt gcc aga agg caa 722
 Leu Leu Leu Ala Ile Lys Ser Leu Thr Pro His Phe Ala Arg Arg Gln
 145 150 155

gca atc cgg gaa tcc tgg ggc caa gaa agc aac gca ggg aac caa acg 770
 Ala Ile Arg Glu Ser Trp Gly Gln Glu Ser Asn Ala Gly Asn Gln Thr
 160 165 170 175

gtg gtg cga gtc ttc ctg ctg ggc cag aca ccc cca gag gac aac cac 818
 Val Val Arg Val Phe Leu Leu Gly Gln Thr Pro Pro Glu Asp Asn His
 180 185 190

ccc gac ctt tca gat atg ctg aaa ttt gag agt gag aag cac caa gac 866
 Pro Asp Leu Ser Asp Met Leu Lys Phe Glu Ser Glu Lys His Gln Asp
 195 200 205

att ctt atg tgg aac tac aga gac act ttc ttc aac ttg tct ctg aag 914
 Ile Leu Met Trp Asn Tyr Arg Asp Thr Phe Phe Asn Leu Ser Leu Lys
 210 215 220

gaa gtg ctg ttt ctc agg tgg gta agt act tcc tgc cca gac act gag 962
 Glu Val Leu Phe Leu Arg Trp Val Ser Thr Ser Cys Pro Asp Thr Glu
 225 230 235

ttt gtt ttc aag ggc gat gac gat gtt ttt gtg aac acc cat cac atc 1010
 Phe Val Phe Lys Gly Asp Asp Asp Val Phe Val Asn Thr His His Ile
 240 245 250 255

ctg aat tac ttg aat agt tta tcc aag acc aaa gcc aaa gat ctc ttc 1058
 Leu Asn Tyr Leu Asn Ser Leu Ser Lys Thr Lys Ala Lys Asp Leu Phe
 260 265 270

ata ggt gat gtg atc cac aat gct gga cct cat cgg gat aag aag ctg 1106
 Ile Gly Asp Val Ile His Asn Ala Gly Pro His Arg Asp Lys Lys Leu
 275 280 285

aag tac tac atc cca gaa gtt gtt tac tct ggc ctc tac cca ccc tat 1154
 Lys Tyr Tyr Ile Pro Glu Val Val Tyr Ser Gly Leu Tyr Pro Pro Tyr
 290 295 300

gca ggg gga ggg ggg ttc ctc tac tcc ggc cac ctg gcc ctg agg ctg 1202
 Ala Gly Gly Gly Gly Phe Leu Tyr Ser Gly His Leu Ala Leu Arg Leu
 305 310 315

tac cat atc act gac cag gtc cat ctc tac ccc att gat gac gtt tat 1250
 Tyr His Ile Thr Asp Gln Val His Leu Tyr Pro Ile Asp Asp Val Tyr
 320 325 330 335

act gga atg tgc ctt cag aaa ctc ggc ctc gtt cca gag aaa cac aaa 1298
 Thr Gly Met Cys Leu Gln Lys Leu Gly Leu Val Pro Glu Lys His Lys
 340 345 350

ggc ttc agg aca ttt gat atc gag gag aaa aac aaa aat aac atc tgc 1346
 Gly Phe Arg Thr Phe Asp Ile Glu Glu Lys Asn Lys Asn Asn Ile Cys
 355 360 365

tcc tat gta gat ctg atg tta gta cat agt aga aaa cct caa gag atg 1394
 Ser Tyr Val Asp Leu Met Leu Val His Ser Arg Lys Pro Gln Glu Met
 370 375 380

att gat att tgg tct cag ttg cag agt gct cat tta aaa tgc 1436
 Ile Asp Ile Trp Ser Gln Leu Gln Ser Ala His Leu Lys Cys
 385 390 395

taaaatagat acaaaactcaa tttkgsatwg raaggggtwt tttgratwgg ycccatgttg 1496
 ggggtctcaca ttagagtaat ttctatttina ancatgaaat tgcctttatg agtgataccc 1556
 atttanggcc tctaanctt catttgnact cacgtgaaga agggaaagcg ggagaaggta 1616
 atttntttat ggtgaatggc aggatatttg tctgacttac cgntagggga ntttaaaact 1676
 ggnctttttt gaatctgttt ggatggccct t 1707

<210> 14

<211> 397

<212> PRT

<213> Homo sapiens

<400> 14

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Ala	Asn	Val	Phe	Ile	Tyr	Phe	Ile	Met	Glu	Val	Ser	Lys	Ser	Ser	Ser
			20					25					30		
Gln	Glu	Lys	Asn	Gly	Lys	Gly	Glu	Val	Ile	Ile	Pro	Lys	Glu	Lys	Phe
		35					40					45			
Trp	Lys	Ile	Ser	Thr	Pro	Pro	Glu	Ala	Tyr	Trp	Asn	Arg	Glu	Gln	Glu
	50					55					60				
Lys	Leu	Asn	Arg	Gln	Tyr	Asn	Pro	Ile	Leu	Ser	Met	Leu	Thr	Asn	Gln
	65				70					75					80
Thr	Gly	Glu	Ala	Gly	Arg	Leu	Ser	Asn	Ile	Ser	His	Leu	Asn	Tyr	Cys
				85					90					95	
Glu	Pro	Asp	Leu	Arg	Val	Thr	Ser	Val	Val	Thr	Gly	Phe	Asn	Asn	Leu
			100					105					110		
Pro	Asp	Arg	Phe	Lys	Asp	Phe	Leu	Leu	Tyr	Leu	Arg	Cys	Arg	Asn	Tyr
	115						120					125			
Ser	Leu	Leu	Ile	Asp	Gln	Pro	Asp	Lys	Cys	Ala	Lys	Lys	Pro	Phe	Leu
	130					135					140				
Leu	Leu	Ala	Ile	Lys	Ser	Leu	Thr	Pro	His	Phe	Ala	Arg	Arg	Gln	Ala
	145				150					155					160
Ile	Arg	Glu	Ser	Trp	Gly	Gln	Glu	Ser	Asn	Ala	Gly	Asn	Gln	Thr	Val
				165					170					175	
Val	Arg	Val	Phe	Leu	Leu	Gly	Gln	Thr	Pro	Pro	Glu	Asp	Asn	His	Pro
			180					185					190		
Asp	Leu	Ser	Asp	Met	Leu	Lys	Phe	Glu	Ser	Glu	Lys	His	Gln	Asp	Ile
	195						200					205			
Leu	Met	Trp	Asn	Tyr	Arg	Asp	Thr	Phe	Phe	Asn	Leu	Ser	Leu	Lys	Glu
	210					215					220				
Val	Leu	Phe	Leu	Arg	Trp	Val	Ser	Thr	Ser	Cys	Pro	Asp	Thr	Glu	Phe
	225				230					235					240
Val	Phe	Lys	Gly	Asp	Asp	Val	Phe	Val	Asn	Thr	His	His	Ile	Leu	
			245					250					255		
Asn	Tyr	Leu	Asn	Ser	Leu	Ser	Lys	Thr	Lys	Ala	Lys	Asp	Leu	Phe	Ile
		260						265					270		
Gly	Asp	Val	Ile	His	Asn	Ala	Gly	Pro	His	Arg	Asp	Lys	Lys	Leu	Lys
	275						280					285			
Tyr	Tyr	Ile	Pro	Glu	Val	Val	Tyr	Ser	Gly	Leu	Tyr	Pro	Pro	Tyr	Ala
	290					295					300				
Gly	Gly	Gly	Gly	Phe	Leu	Tyr	Ser	Gly	His	Leu	Ala	Leu	Arg	Leu	Tyr
	305				310					315					320
His	Ile	Thr	Asp	Gln	Val	His	Leu	Tyr	Pro	Ile	Asp	Asp	Val	Tyr	Thr
			325						330					335	
Gly	Met	Cys	Leu	Gln	Lys	Leu	Gly	Leu	Val	Pro	Glu	Lys	His	Lys	Gly
			340					345					350		
Phe	Arg	Thr	Phe	Asp	Ile	Glu	Glu	Lys	Asn	Lys	Asn	Asn	Ile	Cys	Ser
		355					360					365			
Tyr	Val	Asp	Leu	Met	Leu	Val	His	Ser	Arg	Lys	Pro	Gln	Glu	Met	Ile
	370					375					380				
Asp	Ile	Trp	Ser	Gln	Leu	Gln	Ser	Ala	His	Leu	Lys	Cys			
	385				390					395					

<210> 15

<211> 365

<212> PRT

<213> Homo sapiens

<400> 15

Gln	Glu	Lys	Asn	Gly	Lys	Gly	Glu	Val	Ile	Ile	Pro	Lys	Glu	Lys	Phe
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Trp	Lys	Ile	Ser	Thr	Pro	Pro	Glu	Ala	Tyr	Trp	Asn	Arg	Glu	Gln	Glu
			20					25					30		
Lys	Leu	Asn	Arg	Gln	Tyr	Asn	Pro	Ile	Leu	Ser	Met	Leu	Thr	Asn	Gln
		35					40					45			
Thr	Gly	Glu	Ala	Gly	Arg	Leu	Ser	Asn	Ile	Ser	His	Leu	Asn	Tyr	Cys
	50					55					60				
Glu	Pro	Asp	Leu	Arg	Val	Thr	Ser	Val	Val	Thr	Gly	Phe	Asn	Asn	Leu
	65				70					75					80
Pro	Asp	Arg	Phe	Lys	Asp	Phe	Leu	Leu	Tyr	Leu	Arg	Cys	Arg	Asn	Tyr
				85					90					95	
Ser	Leu	Leu	Ile	Asp	Gln	Pro	Asp	Lys	Cys	Ala	Lys	Lys	Pro	Phe	Leu
			100					105					110		
Leu	Leu	Ala	Ile	Lys	Ser	Leu	Thr	Pro	His	Phe	Ala	Arg	Arg	Gln	Ala
		115					120					125			
Ile	Arg	Glu	Ser	Trp	Gly	Gln	Glu	Ser	Asn	Ala	Gly	Asn	Gln	Thr	Val
	130					135					140				
Val	Arg	Val	Phe	Leu	Leu	Gly	Gln	Thr	Pro	Pro	Glu	Asp	Asn	His	Pro
	145				150					155					160
Asp	Leu	Ser	Asp	Met	Leu	Lys	Phe	Glu	Ser	Glu	Lys	His	Gln	Asp	Ile
			165					170						175	
Leu	Met	Trp	Asn	Tyr	Arg	Asp	Thr	Phe	Phe	Asn	Leu	Ser	Leu	Lys	Glu
			180					185					190		
Val	Leu	Phe	Leu	Arg	Trp	Val	Ser	Thr	Ser	Cys	Pro	Asp	Thr	Glu	Phe
		195					200					205			
Val	Phe	Lys	Gly	Asp	Asp	Asp	Val	Phe	Val	Asn	Thr	His	His	Ile	Leu
	210				215						220				
Asn	Tyr	Leu	Asn	Ser	Leu	Ser	Lys	Thr	Lys	Ala	Lys	Asp	Leu	Phe	Ile
	225				230					235					240
Gly	Asp	Val	Ile	His	Asn	Ala	Gly	Pro	His	Arg	Asp	Lys	Lys	Leu	Lys
			245						250					255	
Tyr	Tyr	Ile	Pro	Glu	Val	Val	Tyr	Ser	Gly	Leu	Tyr	Pro	Pro	Tyr	Ala
			260					265					270		
Gly	Gly	Gly	Gly	Phe	Leu	Tyr	Ser	Gly	His	Leu	Ala	Leu	Arg	Leu	Tyr
		275					280					285			
His	Ile	Thr	Asp	Gln	Val	His	Leu	Tyr	Pro	Ile	Asp	Asp	Val	Tyr	Thr
	290					295					300				
Gly	Met	Cys	Leu	Gln	Lys	Leu	Gly	Leu	Val	Pro	Glu	Lys	His	Lys	Gly
	305				310					315					320
Phe	Arg	Thr	Phe	Asp	Ile	Glu	Glu	Lys	Asn	Lys	Asn	Asn	Ile	Cys	Ser
			325					330						335	
Tyr	Val	Asp	Leu	Met	Leu	Val	His	Ser	Arg	Lys	Pro	Gln	Glu	Met	Ile
		340						345					350		
Asp	Ile	Trp	Ser	Gln	Leu	Gln	Ser	Ala	His	Leu	Lys	Cys			
		355					360					365			

<210> 16

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated primer

<400> 16

cttcgacgcc ccacactcat

20

<210> 17

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated primer

<400> 17

atgagtgtgg ggcgtcgaag

20

<210> 18

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated primer

<400> 18

ccatgttggg gtctcacatt agag

24

<210> 19

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated primer

<400> 19

ggtaagtcag accaatatcc tgcc

24